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10/563,305	01/04/2006	Takeshi Watase	282051US0PCT	8356

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EXAMINER	
DUCHENEAUX, FRANK D	

ART UNIT	PAPER NUMBER
1788	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/563,305	WATASE ET AL.	
	Examiner	Art Unit	
	FRANK D. DUCHENEAUX	1788	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5,7,8,11-15 and 22-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-5, 7-8, 11-15 and 22-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner's Note

The examiner acknowledges the cancellation of claim 6 in the amendments filed 1/6/2011.

Response to Amendment

1. Applicant's arguments, see pages 12-13, filed 1/6/2011, with respect to the objection of claim 6 have been fully considered and are persuasive. The objection of claim 6 has been withdrawn.

2. Applicant's arguments, see page 13, filed 1/6/2011, with respect to the rejection of claims 14-15 and 24 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claims 14-15 and 24 has been withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1, 4, 7-8, 11-13 and 14-15** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The applicants' attention is directed to the first full paragraph on page 26 of the present specification, wherein it is disclosed that permalloy is designated as a magnetic metal powder, which is distinguished from a soft magnetic ferrite powder in terms of the inherent electrical conductivity of each of these magnetic powders (see last paragraph on page 29).

The second full paragraph on page 30 of the specification as originally filed supports the currently claimed ranges for the mass% of the magnetic powder and the electrically conductive additive only when the magnetic powder is a soft magnetic ferrite powder and not a magnetic metal powder, as in the case of permalloy. Thus the recitation in the current claims of a content of the magnetic powder and the electrically conductive additive being 20 to 40 mass% is not supported by the specification as originally filed.

In addition, the last paragraph on page 11 of the specification discloses a magnetic coating film having an electrically conductive additive in an amount of 20 to 40% when the coating film is 3 to 15 μm, and not 3 to 50 μm as presently recited in claims 1, 7, 11 and 14.

Finally, page 30, 2nd full paragraph, discloses the soft magnetic ferrite powder in an amount of 20 to 40%, but there is no disclosure for said range in the case where permalloy is employed as the magnetic powder.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1 and 4** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. **Claim 1** recites the limitation "the total content" in line 7. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 5** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. **Claim 5** recites the limitation "the total content" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 1 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1).

Regarding claims 1 and 4, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (at least on one surface) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler of from 10 - 50 % (page 25, para 3-8), which said range overlaps that presently claimed for the electrically conductive filler, and which said Ni filler is a well known magnetic material (magnetic coating film).

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Watase is silent to a further magnetic powder, which said magnetic powder is permalloy.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of a Ni-Fe alloy powder mixed with organic binders (para 0042-0043) such as polyesters (para 0046).

Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005), and is present in binder solutions is an amount of 5 to 95 wt.% (para 0053), which overlaps as presently claimed, such as a lower limit of 30 wt.% when a coating thickness is a dozen μm for complete shielding of EM waves (para 0054), and an upper limit of 60 wt. % towards, inter alia, a degree of flexibility (para 0055).

Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Hosoe references to provide a heat dissipating resin film(s) having a conductive filler and permalloy powder in amounts as presently claimed towards a metal coated sheet having excellent magnetic permeability for complete EM shield while maintaining an appropriate level of flexibility for further use as magnetic shielding coatings as in the present invention.

13. **Claims 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1).

Regarding claims 7-8, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and having an average particle diameter of 5 to 100 nm (page 19, para 4) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase also teaches the integrated emissivity limitations of item (3) of current claim 7 (abstract). Watase is silent to a magnetic powder being permalloy.

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler of from 10 - 50 % (page 25, para 3-8), which said range overlaps that presently claimed for the electrically conductive filler, and which said Ni filler is a well known magnetic material (magnetic coating film).

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Watase is silent to a further magnetic powder, which said magnetic powder is permalloy.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of a Ni-Fe alloy powder mixed with organic binders (para 0042-0043) such as polyesters (para 0046).

Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005), and is present in binder solutions is an amount of 5 to 95 wt.% (para 0053), which overlaps as presently claimed, such as a lower limit of 30 wt.% when a coating thickness is a dozen μm for complete shielding of EM waves (para 0054), and an upper limit of 60 wt. % towards, inter alia, a degree of flexibility (para 0055).

Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Hosoe references to provide a heat dissipating resin film(s) having a conductive filler and permalloy powder in amounts as presently claimed towards a metal coated sheet having excellent magnetic permeability for complete EM shield while maintaining an appropriate level of flexibility for further use as magnetic shielding coatings as in the present invention.

14. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1) and in further view of Nakao et al. (US Patent 5945218).

Regarding claims 11-13, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase continues to teach that the coating contains a black additive (page 17, para 4-5). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 3), made of a resin (page 28, para 5) and containing a pigment (page 28, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler of from 10 - 50 % (page 25, para 3-8), which said range overlaps that presently claimed for the electrically conductive filler, and which said Ni filler is a well known magnetic material (magnetic coating film).

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Watase is silent to a further magnetic powder, which said magnetic powder is permalloy, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass%, said pigment is TiO_2, and to the L-value limitations of item (4) of current claim 11.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of a Ni-Fe alloy powder mixed with organic binders (para 0042-0043) such as polyesters (para 0046).

Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005), and is present in binder solutions is an amount of 5 to 95 wt.% (para 0053), which overlaps as presently claimed, such as a lower limit of 30 wt.% when a coating thickness is a dozen μm for complete shielding of EM waves (para 0054), and an upper limit of 60 wt. % towards, inter alia, a degree of flexibility (para 0055).

Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029).

Watase and Hosoe are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass%, said pigment is TiO_2, and to the L-value limitations of item (4) of current claim 11.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15).

Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7-8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44-53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment.

It is noted that, since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass% of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Hosoe and Nakao references to provide a heat dissipating resin film(s) having a conductive filler and permalloy powder in amounts as presently claimed towards a metal coated sheet having excellent magnetic permeability for complete EM shield while maintaining an appropriate level of flexibility for further use as magnetic shielding coatings, and to further provide the heat dissipating resin film further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous

coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

15. **Claims 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1) and in further view of Nakao et al. (US Patent 5945218).

Regarding claims 14-15 , Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and having an average particle diameter of 5 to 100 nm (page 19, para 4) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler of from 10 - 50 % (page 25, para 3-8), which said range overlaps that presently claimed for the

electrically conductive filler, and which said Ni filler is a well known magnetic material (magnetic coating film).

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Watase further teaches the integrated emissivity limitations of item (3) of current claim 14 (abstract).

Watase is silent to a further magnetic powder, which said magnetic powder is permalloy, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 14.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of a Ni-Fe alloy powder mixed with organic binders (para 0042-0043) such as polyesters (para 0046).

Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005), and is present in binder solutions is an amount of 5 to 95 wt.% (para 0053), which overlaps as presently claimed, such as a lower limit of 30 wt.% when a coating thickness is a dozen μm for complete shielding of EM waves (para 0054), and an upper limit of 60 wt. % towards, inter alia, a degree of flexibility (para 0055).

Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029).

Watase and Hosoe are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 14.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15).

Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment.

It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention

to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Hosoe and Nakao references to provide a heat dissipating resin film(s) having a conductive filler and permalloy powder in amounts as presently claimed towards a metal coated sheet having excellent magnetic permeability for complete EM shield while maintaining an appropriate level of flexibility for further use as magnetic shielding coatings, wherein the heat dissipating resin film are further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

16. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116).

Regarding claim 5, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (at least one surface) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % and that an amount less than 10% results in the effect of the filler not being obtained while an amount above 50%, the workability is diminished (page 25, para 3-8).

Watase is silent to a magnetic powder being a soft magnetic ferrite powder and a total content of the electrically conductive additive and the magnetic powder is from 30 to 60 mass %.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, inter alia, polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36).

Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, inter alia, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53) and the metal powder is, inter alia, nickel (column 3, lines 65-67), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder and the total amount of the metal powder (electrically conductive additive) is less than 20 parts by weight (column 4, lines 29-31 and lines 38-43), which provides for a soft magnetic in an amount as presently claimed.

It is noted that the amount of the electrically conductive metal powder as taught by Nagano share an endpoint with that presently claimed and that the only deficiency of Nagano et al. is that Nagano et al. disclose the use of less than 20% mass metal powder, while the present claims require 20 to 40% mass conductive additive.

It is apparent, however, that the instantly claimed amount of 20% and that taught by Nagano et al. are so close to each other that the fact pattern is similar to the one in In re Woodruff

, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the amount of metal powder disclosed by Nagano et al. and the amount of the conductive additive disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the amount of conductive additive being less than 20% (see page 75 of the present disclosure), it therefore would have been obvious to one of ordinary skill in the art that the amount of conductive additive disclosed in the present claims is but an obvious variant of the amounts disclosed in Nagano et al, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Nagano references to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further provide a soft magnetic ferrite in an amount as presently claimed towards a heat dissipating resin coated metal sheet having adequate electric conductivity without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding coatings as in the present invention.

17. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116).

Regarding claim 22, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % and that an amount less than 10% results in the effect of the filler not being obtained while an amount above 50% the workability is diminished (page 25, para 3-8).

Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase also teaches the integrated emissivity limitations of item (3) of current claim 22 (abstract).

Watase is silent to a magnetic powder being a soft magnetic ferrite powder.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, inter alia, polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36).

Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, inter alia, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Nagano reference to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further provide a soft magnetic ferrite towards a heat dissipating resin coated metal sheet having adequate electric conductive without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding coatings as in the present invention.

18. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116) and in further view of Nakao et al. (US Patent 5945218).

Regarding claims 23, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % (page 25, para 3-8).

Watase continues to teach that the coating contains a black additive (page 17, para 4-5). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5).

Watase is silent to a magnetic powder being a soft magnetic ferrite, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (4) of current claim 23.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, inter alia, polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36).

Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, inter alia, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed.

Watase and Nagano are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (4) of current claim 23.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15).

Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment.

It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Nagano and Nakao references to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further provide a soft magnetic ferrite in an amount as presently claimed towards a heat dissipating resin coated metal sheet having adequate electric conductivity without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding, and wherein the heat dissipating resin film is further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

19. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116) and in further view of Nakao et al. (US Patent 5945218).

Regarding claim 24, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, inter alia, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, inter alia, a polyester resin (page 19, para 5).

Watase also teaches the coating contains a conductive filler such as, inter alia, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % (page 25, para 3-8).

Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5).

Watase also teaches the integrated emissivity limitations of item (3) of current claim 24 (abstract). Watase is silent to a magnetic powder being a soft magnetic ferrite, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 24.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, inter alia, polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36).

Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, inter alia, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed.

Watase and Nagano are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 24.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15).

Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment.

It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Nagano and Nakao references towards a heat dissipating resin film(s) having excellent magnetic permeability for further use as magnetic shielding coatings, wherein the heat dissipating resin film are further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

Response to Arguments

20. Applicant's arguments, see pages 13-18, filed 1/6/2011, with respect to the rejections of **claims 1 and 4, and 7-8** over Watase et al. in view of Hosoe et al. under 35 U.S.C. 103(a), and the rejections of **claims 11-13 and 14-15** over Watase et al. in view of Hosoe et al. and in further view of Nakao et al. under 35 U.S.C. 103(a), have been fully considered but they are not persuasive.

The Applicants argue against the Examiner's conclusion of obviousness over the Watase and Hosoe references as one of ordinary skill in the art would not have been lead either (1) to substitute or replace the heat dissipation material of Watase with the EM shielding materials of Hosoe, or (2) to add 20 to 40 % of the electrically conductive material of Watase to the EM shielding film of Hosoe.

The Applicants also assert that Watase appears to apply a different coating comprising the electrically conductive filler over an interior heat dissipating film, but does not teach combining heat dissipating materials and conductive materials in a single coating or film, and no

teaching to replace the heat dissipating materials with the permalloy of Hosoe; the Applicants contend that such a replacement would suggest to the skilled artisan an undermining of the purposes of the Watase invention.

The Applicants repeat their argument that the skilled artisan would have no reason to add Watase's conductive material to the film of Hosoe, and further argue that such an addition would detrimentally affect the primary purpose of the Hosoe film. Indeed, the Applicants argue, Hosoe does suggest such an addition, but only a choice of binders in regards to heat and solvent resistance, and fillers chosen to provide color or reinforce the coating strength.

The Applicants also argue that the combination of the two prior art references is improper in regards to an obviousness rejection as the said combination neither suggests the presently claimed resin coated metal sheet for any reasonable purpose, nor reasonably predicts that the combination of magnetic powder and electrically conductive materials in an amount of at least 20 mass % would provide improvement to the EM shielding effect of a film comprising an organic binder and a permalloy.

The Applicants continue to argue that Hosoe provides no reason for the addition of an electrically conductive additive in the amounts presently claimed, but to the contrary, Hosoe's interest lies in uniformly dispersing the EM shielding materials throughout the protective films for maximum effect. Thus, the Applicants assert, Hosoe teaches away from the addition of fillers of any kind for any other purpose.

The Applicants further argue that, even thought both the Watase and Hosoe inventions contemplate color pigments added to the respective inventions, neither reference suggests that a high surface gloss white film or pigment may be applied over an EM wave shielding permalloy

film to provide a contrast and/or an improved appearance. Indeed, Hosoe teaches that added fillers decreases the EM wave shielding effect of its coating, and one of ordinary skill in the art would not be inclined to add the white fillers to EM wave shielding films.

In citing a portion of the previous office action, the Applicants once again posture that the skilled artisan would not be inclined to add the materials of the primary Watase reference to the films of the secondary Hosoe reference, and that said artisan would have no reason to increase the amount of conductive material to at least 20 mass% and expect an improvement in EM wave shielding effect for the Hosoe reference.

The Examiner notes that the Applicants have mentioned the Nagano reference in their arguments against the currently argued claims. However, given that the Nagano reference was not employed in the rejections of claims 1, 7, 11 and 14, previously or currently, the Examiner's rebuttal(s) to the Applicants' arguments in regard to this reference will be set forth in the Examiner's responses to the Applicants' arguments against the rejections of claims 5 and 22-24.

In response to the Applicants' arguments, the Examiner must respectfully disagree as (1) the combination of the prior art rejections did not substitute or replace the heat dissipation materials of the primary Watase reference with the EM shielding materials as taught by the analogous Hosoe secondary reference. Indeed, the analogous Hosoe reference was employed to remedy the deficiencies of the Watase reference as set forth in the prior art rejections above and outlined below: and (2) nor was it the Examiner's posture to remedy any deficiencies with the Hosoe reference with the electrically conductive material of Watase.

It is noted that, while Hosoe does not disclose all the features of the present claimed invention, Hosoe is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, In re Nievelt, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), In re Keller 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely alloy products such as permalloy and products applying said powders such as magnetic shielding materials, and in combination with the primary reference, discloses the presently claimed invention.

Also, it is noted that the "test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference... Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art", In re Keller, 642 F.2d 413,208 USPQ 871,881 (CCPA 1981) and that "combining the teachings of references does not involve an ability to combine their specific structures", In re Nievelt, 482 F.2d 965, 179 USP 224, 226 (CCPA).

In response to the Applicants' suggestion that Watase teaches two separate coatings, one of which is a heat dissipating film, and another containing the conductive materials coated on the heat dissipating film, the Applicants' attention is respectfully directed to at least paragraph 7 on page 25, wherein it is clear that first and second coatings on the rear and surface sides of the substrates are single coatings containing the heat dissipating and conductive films. See also paragraph 3 of the same page, wherein Watase discusses enhancing coatings (a) and (b) with conductivity, and paragraph 4 begins discussion of coating (a).

The Examiner respectfully disagrees with the Applicants' contention that the combination of Watase and Hosoe is improper as it is clear that the Watase invention is directed for use with,

and incorporation into, devices of an electronic nature, of which the skilled artisan at the time of the invention would have certainly contemplated the benefits of any EM wave shielding considerations.

Applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Hosoe, and its combination with Watase is, therefore, a reasonably pertinent reference, because it teaches EM wave shielding materials, which is a function especially pertinent to the invention at hand.

Indeed, based upon the delicacy of circuitry designed to be incorporated in tandem with an invention employing the coated substrates of Watase, and the potential for damage to said circuitry from surrounding EM radiation, the skilled artisan would actually be irresponsible not to contemplate the benefits of including the EM shielding material of Hosoe into the disclosed invention of Watase.

Further, as stated above in the prior art rejections, not only does Hosoe provide the currently claimed EM shielding materials, but Hosoe also discusses the advantages and disadvantages of adding the disclosed material in certain weight percents based upon desired properties, which would have been clear to one of ordinary skill in the art, and in combination with the Watase reference, teaches the presently claimed invention.

In regards to the combination of Watase, Hosoe and Nakao, the Examiner respectfully notes that Nakao was not employed to teach adding fillers to the EM wave shielding coatings of Hosoe as presently argued by the Applicants. Indeed, it would not have made sense to combine the references in such a manner as the present invention is directed to resin coating films containing, inter alia, white pigments, which said resin coating films are further coated onto the presently claimed magnetic coating films.

Also, as set forth above in the prior art rejections, Nakao was employed to teach forming films with improved properties such as surface gloss, smoothness, chipping resistance and the like formed of, inter alia, a white coating comprising a white pigment and a titanium dioxide pigment, which said coating can be coated on a plastic substrate.

Thus, it would not be outside the purview of one of ordinary skill to contemplate applying a coating such as that of Nakao, which provides the benefits cited, over the critical coatings taught by the Watase/Hosoe references towards providing protection from, inter alia, chipping and the like to the underlying said critical coatings as such layered structures are not outside the scope the skilled artisan familiar with the inventions of Watase and Hosoe.

21. Applicant's arguments, see pages 18-21, filed 1/6/2011, with respect to the rejections of **claims 5 and 22** over Watase et al. in view of Nagano et al. under 35 U.S.C. 103(a), and the rejections of **claims 23 and 24** over Watase et al. in view of Nagano et al. and in further view of Nakao et al. under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

The Applicants' assert that the Examiner has not explained why a person of ordinary skill in the art would replace the heat dissipating material with the EM wave reflecting material of

Nagano, and also appear to assert that employing the Watase reference to remedy the deficiencies of Nagano would teach away from the secondary Nagano reference (emphasis by Examiner).

The Applicants also argue that the Examiner has erred in citing the Titanium case law towards a showing that a prima facie case of obviousness exists with Nagano's teaching of less than 20 parts by weight of an electrically conductive material, which said err the Applicants contend is multiplied given the teaching by Hosoe that the density and uniformity of the EM wave shielding materials must be increased to improve the shielding effect.

The Applicants believe that the Tanaka Decision provides precedent for the Applicants' arguments in that said Decision ruled against an examiner's citation of the Titanium case law given that the prior art specifically warned against having a carbon content above that recited in the appealed claims (emphasis by Examiner). The Applicants again discuss the warnings of Hosoe and claim that it would have been unreasonable for the skilled artisan to optimize in directions contrary to the restriction imposed by Nagano.

The Applicants further argue that Watase does not teach any detrimental effect on heat dissipation when the electrically conductive materials are present in amounts of 20 mass% or more, while Hosoe and Nagano would have lead one of ordinary skill in the art to conclude that such amounts of the conductive material is likely to produce a detrimental effect to the EM wave shields.

As in the Applicants' arguments against the inclusion of the Nakao reference, summarized above in regards to the rejections of claims 1 and 4, 7-8, 11-13 and 14-15, the Applicants similarly argue against the combination of Watase, Nagano and Nakao.

The Examiner respectfully notes that the prior art rejections set forth above against the current claims did not employ the Hosoe reference, and thus it is not reasonable for the Examiner to provide a fair rebuttal against the Applicants' arguments in regards to Hosoe.

Also, it is noted that, other than the Applicants' argument against the Nagano reference teaching "less than 20 mass% of an electrically conductive material," the remainder of the Applicants' arguments mirror those summarized earlier for the rejections of claims 1 and 4, 7-8, 11-13 and 14-15, and as such, the Applicants' attention is respectfully directed to the Examiner's responses to said summarized arguments for a fair and explicit rebuttal to the Applicants' current arguments.

In regards to Nagano and the Titanium case law, the Examiner respectfully disagrees with the Applicants' contention given that the Tanaka Decision provided evidence that the prior art "specifically" warned against the inclusion of carbon above that disclosed by the said reference, while the language of Nagano is not so pointed, and thus one of ordinary skill in the art at the time of present invention would have been well apprised of combining the disclosures of the prior art references in such a manner to provide a coated metal substrate with the presently claimed materials in the presently claimed amounts based upon optimizing the properties provide by said materials for a specific application and thereby arrive at the presently claimed invention

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK D. DUCHENEAUX whose telephone number is (571)270-7053. The examiner can normally be reached on M-Th, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie E. Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. D. D./
Examiner, Art Unit 1788

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1787